

A NEW SPECIES OF *EPIDROMIA* (NOCTUIDAE) FROM FLORIDA

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ABSTRACT. This preliminary study of the genus *Epidromia* Guenée (Ophiderinae: Noctuidae: Lepidoptera) describes a new species *E. fergusoni* and redescribes the type species *E. pannosa* Guenée.

Twenty species group names are included in the neotropical genus *Epidromia* Guenée (Ophiderinae). This genus is distributed in northern South America and throughout Central America and reaches its greatest diversity in the Antilles. Florida is its northernmost extension.

METHODS

Names applied to wing veins and markings correspond to Forbes (1923). The forewing length is measured from the base of the wing to the apex of the wing. The width is measured from the apex to the anal angle. The depth and width of the cleft of the ostium bursae is measured as shown in Fig. 1. All measurements correspond to the mean value, and the measurements in the parentheses are the range. The numbers in parentheses in the distribution section are USNM (United States National Museum of Natural History) genitalia slide numbers.

RESULTS

Epidromia is being redescribed since the original description is incomplete. The genitalia are described and illustrated for the first time.

Epidromia

Epidromia Guenée, 1852, *In* Boisduval and Guenée, *Hist. Nat. Insectes, Spec. Gén. des Lépid.* 7:325. Type: *Epidromia pannosa* Guenée, 1852, by subsequent designation (Berio, 1966. *Annali Museo Civico Storia Naturale Giacomo Doria* 76:57).

Penultimate segment of palpi upturned and longer than first and third segments together; ultimate segment ending in blunt point. Abdomen cylindrical, elongated; sternites more hairy than tergites; distal end appearing square-shaped in males and tapered in females (Figs. 3, 6 and 8) distal tergite square-shaped with membranous projections into seventh tergite, projections pointing medially; distal sternite with two sclerotized, long lobes connected by two smaller lobes (Fig. 2). Front legs stout with dense hairs. Wings entire, oblong; underside of wings having beige sheen with silky pubescence; peak of each scallop of adterminal line with immediately adjacent dot. Sacculus simple; uncus simple, widely angled distally; tegumen medially extended to point ventro-laterally; vinculum about as long as wide; vesica distally bilobed without cornuti (Figs. 4, 5 and 9, 10). Genital plate heart-shaped; ostium bursae cleft; no signa on corpus bursae (Figs. 7 and 12).

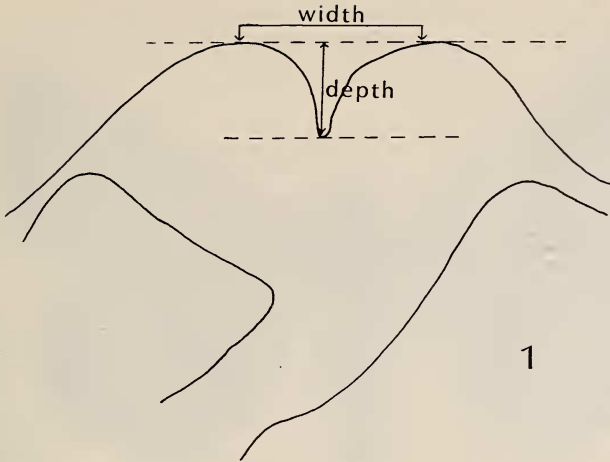


FIG. 1. Diagrammatic illustration of ostium bursa and measured distances.

Inspection of specimens and representative genitalia slides of genera believed to be closely related revealed that *Epidromia* is most closely related to *Itomia* Hübner. These two genera share an uncus that is simple, curved, and with a prominent spine at the distal end, and a costa on the valve that is strongly lobed. *Itomia* species more closely resemble *Epidromia* species from South America than those from Central America and the Antilles.

The type-species of *Itomia* is *Itomia lignaris* Hübner, by monotypy.

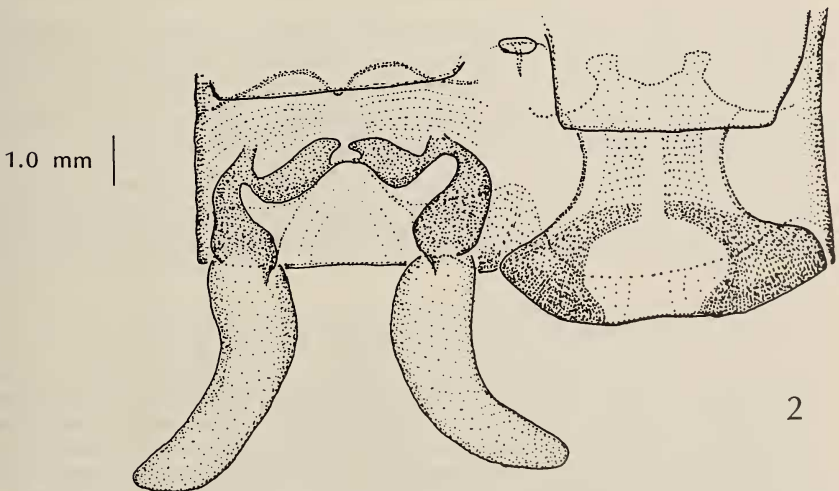


FIG. 2. Last abdominal segment of *Epidromia*.



FIG. 3. *Epidromia fergusonii*, holotype, male.

The holotype is believed to have been destroyed (R. W. Poole, pers. comm.). The original description and illustration of *I. lignaris* are not adequate for identification of the species. The specimens at the USNM suggest that a complex of species is involved; therefore, a male and a female from the complex have been chosen for the purpose of the genitalia comparison (Female: Mizantlan, Mexico, slide no. 42,618; Male: Mizantlan, Mexico, slide no. 42,619) (Table 1).

Table 2 is simply a list of species group names currently placed in *Epidromia*. Some names are new combinations. Some of the names have been traditionally recognized as synonyms. Some species described by Walker from the Antilles are suspected to be synonyms; he described only females, and females are highly variable. Photographs of the Walker and Gueneé types from the British Museum were studied. There are three other new species that will not be described here. A full revisionary treatment is not feasible at this time because of the difficulties of assembling sufficient material and identifying all of the types.

Epidromia fergusonii Solis, new species

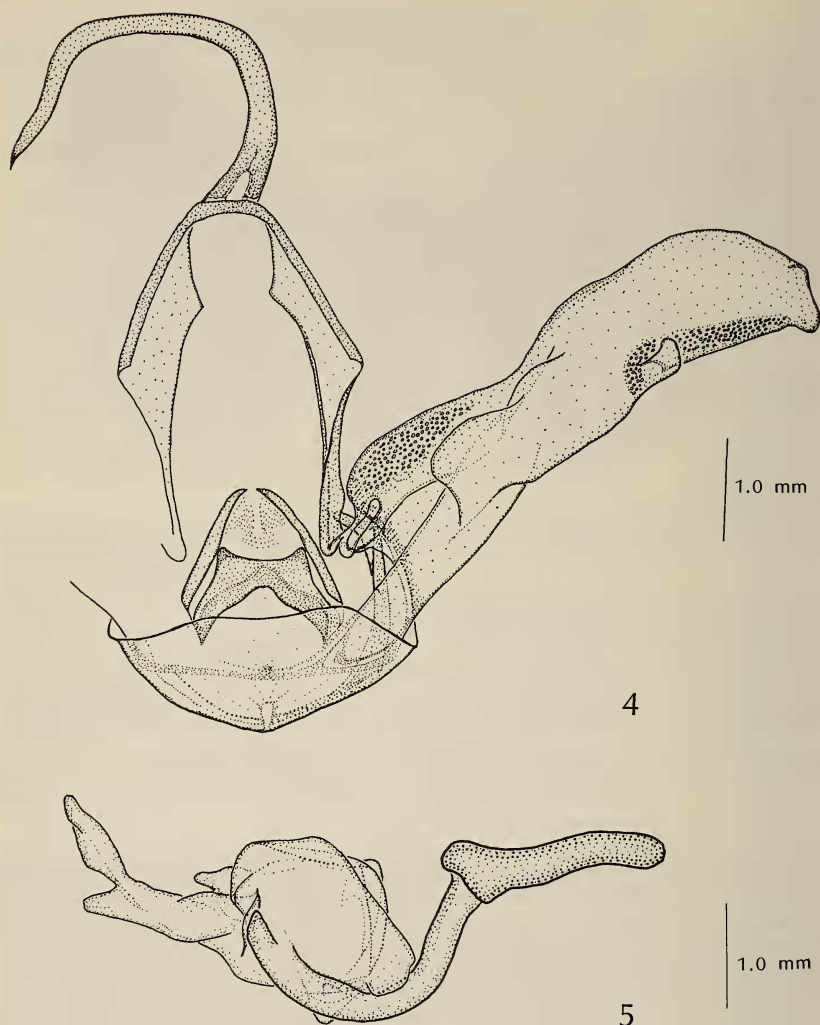
Male holotype. Scales of collar, thorax and abdomen brown with purplish tinge (purplish tinge may disappear with age). Third sternite of abdomen without large bristles ($n = 7$). Ground color of wings brown with purplish tinge. Forewing: Other margin undulated, invaginated at end of R_5 , forming a peak at apex. Basal band brown (not visible); antemedial line light brown; triangular, chocolate brown area extending distally from base of antemedial line, terminating where postmedial line curves toward base of wing. Reniform spot gray (black, more obvious in older specimens). Postmedial line beige;

TABLE 1. Comparison of *Epidromia* and *Itomia*.

Structure	<i>Epidromia</i>	<i>Itomia</i>
Ultimate labial palp segment	blunt	pointed
Penultimate labial palp segment	four times as long as ultimate palp segment	two times as long as ultimate palp segment
Tergites and sternites of abdomen	sternites with more hair than tergites	sternites and tergites equally hairy
Distal end of abdomen	distal tergite square with membranous projections into 7th tergite bending dorsally; distal sternite with medial sclerotized area but not tubelike	distal tergite triangular with membranous projections into 7th tergite bending laterally; distal sternite with medial tubelike sclerotized area
Front legs	stout, with dense long hairs	slender, devoid of long hairs
Underside of wings	beige sheen with silky pubescence	yellow without silky pubescence
Dots at peak of each scallop of adterminal line	immediately adjacent	not immediately adjacent
Upper side of wings	variable	diagonal lines across the wings
Sacculus	simple	chitinized extension costad and extending distally
Tegumen	medially extended to a point ventrolaterally	simple
Vinculum	as long as wide	longer than wide
Uncus	not sharply angled	sharply angled distally
Vesica	distally bilobed	not distally bilobed
Genital plate	heart-shaped	rectangular, slightly longer than wide
Ostium bursae	with a definite cleft	cleft not definite

chocolate brown patch adjacent to postmedial line beginning at M_1 and extending distally to the apex of forewing. Adterminal line light brown, peak of each scallop with beige dot. Terminal line light brown (beige). Distal underside of wing without gold patch between M_1 and R_4 . Forewing length 2.3 cm (2.2–2.4) ($n = 25$). Length/width ratio 1.5 (1.3–1.7). Hindwing: Outer margin round, area adjacent to margin light brown. Postmedial line same as in forewing; chocolate brown area extending from postmedial line to about halfway to base of wing (Fig. 3). Genitalia: Uncus enlarged at distal end; valve with thumblike process on sacular margin, distal end of valve expands into small, flaplike process; editum on costa round; longest lobe of vesica bifurcate, with short branch rounded and longer branch rounded; longer branch expanded at base and tapered to blunt point ($n = 7$) (Figs. 4, 5).

Female allotype. Scales of collar, thorax and abdomen brown. Ground color of wings brown. Forewing: Outer margin same as in male. Basal line (if visible) double, dark brown on inside, yellow on outside; median line dark brown (or absent). Reniform spot same as in male. Postmedial line double, brown on inside and yellow outside. Amount of beige in area between postmedial and adterminal line when present varies. Subterminal line yellow to brown with dot at peak of each scallop, terminal line brown. Forewing length 2.1 cm (1.9–2.2) ($n = 25$). Length/width ratio 1.5 (1.4–1.6). Hindwing: Outer margin same as in male. Line markings same as forewing, but basal line and antemedial line not visible (Fig. 6). Genitalia: Ostium bursae cleft, approximately 0.45 mm wide at distal end, depth of cleft 0.35 mm (0.28–0.40) ($n = 4$) (Fig. 7).



FIGS. 4 & 5. Male genitalia of *Epidromia fergusonii*. 4, Egmont, Fla., USNM slide 42,611; 5, aedeagus, Miami, Fla., USNM slide 42,609.

Types. Holotype: Male (Fig. 3), University Reserve, Welaka, Putnam Co., Florida, 6 April 1972, D. C. Ferguson. Allotype: Female (Fig. 6), University Reserve, Welaka, Putnam Co., Florida, 6 April 1972, D. C. Ferguson. Paratypes: Six males, same locality and collector, USNM genitalia slide numbers 42,054, 42,614, 42,607; three females, same locality and collector. All specimens are deposited in the U.S. National Museum of Natural History, Washington, D.C.

Distribution. Other specimens used in this analysis were from the following localities in Florida: Miami, Glenwood, Ft. Myers, Ft. Meade, Dade City, St. Petersburg, Royal Palm State Park, Marcos Island, Lutz, Stemper, Indian River, Egmont, Ft. Lauderdale, Chokoloskee. Specimens with suspect data: Plainsfield, N.Y.; Jemez Springs, N.M.; Cuba.



FIG. 6. *Epidromia fergusonii*, allotype, female.

Discussion

This is the Florida species that has been known in this country for nearly a century as *Epidromia delinquens* (Walker) (= *Ophiura delinquens* Walker, 1858). However, Hampson (1913) referred *delinquens* to the synonymy of *Mocis repanda* (F.), a name that Hampson and

TABLE 2. List of species group names in *Epidromia*. (Names in parentheses are the original combinations.)

<i>Epidromia pannosa</i> Guenée
<i>E. zetophora</i> Guenée
<i>E. xanthogramma</i> Wallengren
<i>E. zephyritis</i> Schaus
<i>E. rotundata</i> Herrich-Schaffer
<i>E. consperata</i> Dognin
<i>E. poaphiloides</i> Guenée
<i>E. profana</i> Walker
<i>E. flavilineata</i> (Hampson) NEW COMBINATION (<i>Thermesia flavilineata</i>)
<i>E. glaucescens</i> (Walker) NEW COMBINATION (<i>Thermesia glaucescens</i>)
<i>E. lenis</i> (Walker) NEW COMBINATION (<i>Thermesia lenis</i>)
<i>E. antica</i> (Walker) NEW COMBINATION (<i>Ophisma antica</i>)
<i>E. arenosa</i> (Walker) NEW COMBINATION (<i>Phurys arenosa</i>)
<i>E. pedestris</i> (Walker) NEW COMBINATION (<i>Phurys pedestris</i>)
<i>E. profecta</i> (Walker) NEW COMBINATION (<i>Poaphila profecta</i>)
<i>E. saturator</i> (Walker) NEW COMBINATION (<i>Remigia saturator</i>)
<i>E. sigillata</i> (Walker) NEW COMBINATION (<i>Thermesia sigillata</i>)
<i>E. suffusa</i> (Walker) NEW COMBINATION (<i>Thermesia suffusa</i>)
<i>E. tinctifera</i> (Walker) NEW COMBINATION (<i>Thermesia tinctifera</i>)
<i>E. valida</i> (Walker) NEW COMBINATION (<i>Ophisma valida</i>)

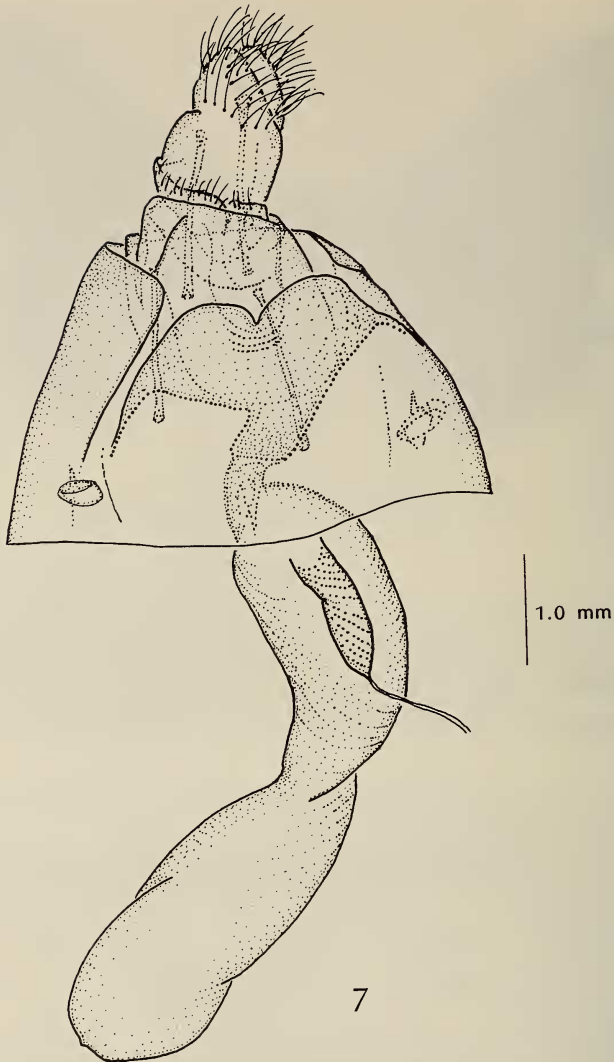


FIG. 7. Female genitalia of *Epidromia fergusonii*, paratype, Welaka, Fla., USNM slide 42,615.

other authors subsequently (but mistakenly) considered to represent the same species as *Mocis latipes* (Guenée). The type of *delinquens* has not been seen, but after reading the description by Walker, it is acknowledged that Hampson was correct in assigning it to the genus *Mocis* Hübner.

It should be noted that *E. fergusonii* is not the only species of *Epi-*



FIG. 8. *Epidromia pannosa* Guenée, holotype, male.

dromia in Florida. A male specimen from Homestead of one undescribed species and a male and a female from Big Pine Key of another undescribed species have also been collected there and are now recorded from the continental United States for the first time.

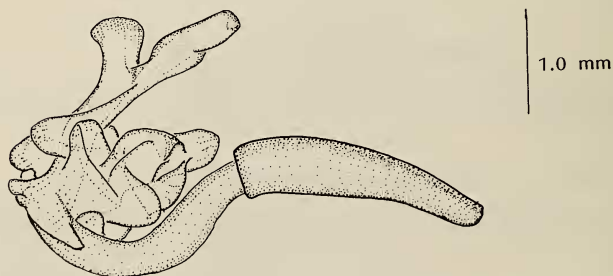
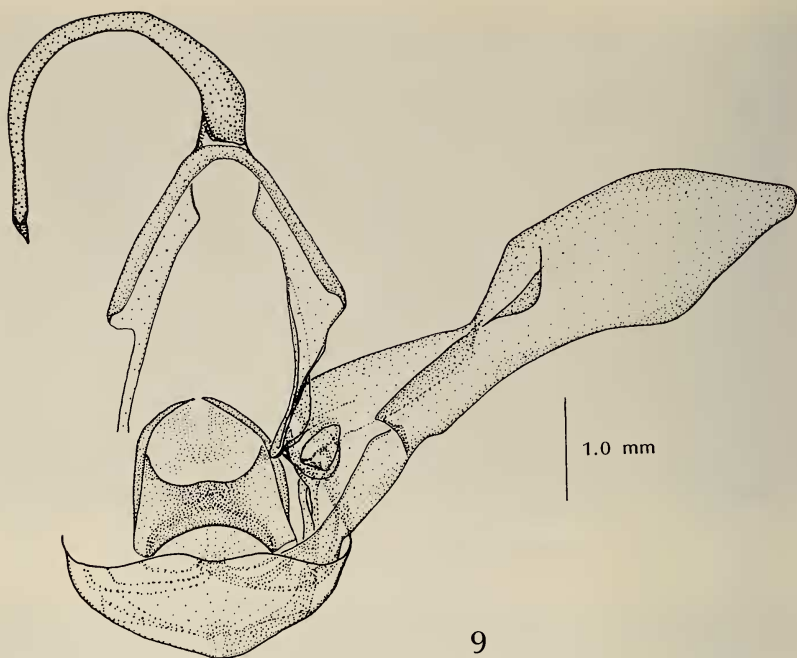
E. fergusonii is named after Douglas C. Ferguson who collected the type material.

Epidromia pannosa Guenée

Epidromia pannosa Guenée, 1852, In Boisduval and Guenée, *Hist. Nat. Insectes, Spec. Gén. des Lépid.* 7:326.

TABLE 3. Comparison of *E. pannosa* and *E. fergusonii*.

Structure	<i>pannosa</i>	<i>fergusonii</i>
Overall color	brown	purplish
Third sternite	with bristles	without bristles
Outer forewing margin	straight	undulated
Antemedial and postmedial line	double	single
Triangular, chocolate brown area extending distally from base of antemedial line	absent	present
Hindwing outer margin—male	angulate	rounded
Hindwing outer margin—female	rounded	rounded
Thumblike process on costa	absent	present
Short branch of bifurcated lobe of vesica	truncated	rounded
Cleft of ostium bursae	0.62 mm wide, 0.43 mm depth	0.25 mm wide, 0.35 mm depth
On underside of forewing—gold patch between M_1 and R_4	present	absent



FIGS. 9 & 10. Male genitalia of *Epidromia pannosa* Guenée. **9**, Rio Janeiro, Brazil, USNM slide 42,053; **10**, aedeagus, Venezuela, USNM slide 42,065.

Male. Scales of thorax and abdomen brown; head and collar dark brown. Third sternite with bristles ($n = 4$). Ground color of wings brown. Forewing: Outer margin not undulated. Basal band brown; antemedial line double, yellow on inside (may not be evident) and dark brown on outside. Median shade dark brown. Reniform spot outlined in dark brown, filled with gray (black or gray without outline). Postmedial line double, dark brown inside, yellow outside. Subterminal line faint, light brown (chocolate brown or lacking). Dark brown patch between subterminal and adterminal line extending from

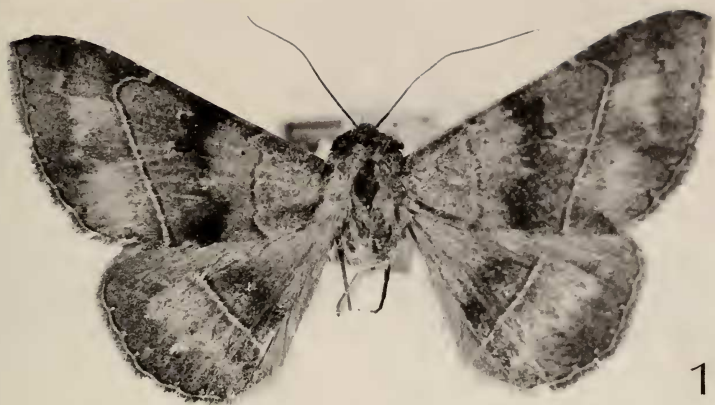


FIG. 11. *Epidromia pannosa* Guenée, female.

M_2 to anal angle. Adterminal line dark brown, slightly scalloped; peak of each scallop with dark brown dot. Terminal line yellow (brown). (One specimen with vein lines dark brown.) Distal underside of wing with gold patch between M_1 and R_4 . Forewing length: 2.3 cm (2.1–2.4). Length/width ratio: 1.6 (1.4–1.8) ($n = 10$). Hindwing: Outer margin slightly angulate at end of Cu_1 ; edge of wing above Cu_1 parallel to body. Area from apex to anal angle adjacent to outer margin dark brown (light brown or no shading). Median shade, postmedial and subterminal line same as forewing (Fig. 8). Genitalia: Uncus enlarged at distal end; editum on costa round; vesica with longest lobe bifurcates, short branch truncate, long branch expanded at base, tapering to blunt point ($n = 4$) (Figs. 9 and 10).

Female. Since Guenée did not describe the female of this species, the following description of a female believed to represent the same species from Aroa, Venezuela is provided. Three males of this species were collected at Aroa, Venezuela and all four (three males and one female) have the same label information. Scales of head, collar, thorax, and abdomen same color as male. Ground color of wings same as male. Forewing: Median line dark brown. Reniform spot same as male. Postmedial line same as male; subterminal line beige. Length: 2.1 cm. Length/width ratio: 1.7 ($n = 1$). Hindwing: Outer margin round. Median line, postmedial line and subterminal line same as forewing (Fig. 11). Genitalia: Ostium bursa cleft, approximately 0.62 mm wide at distal end, depth of cleft 0.43 mm ($n = 1$) (Fig. 12).

Types. The holotype, in the British Museum of Natural History, is a male with no label data other than "Bresil." A photograph of the type specimen taken by R. W. Poole was used in this description.

Distribution. Aroa, Venezuela: one female (42,115) and three males (42,065); Edo. Zuela, Venezuela: three males; Rio Janeiro: one male (42,053); Castro, Parana: one male (42,057); Merida, Mexico: one male (42,069); Tamazunchale, Mexico: four males; Mazatlan, Mexico: one male (42,056); Poza Rica, Mexico (42,072). All specimens examined are in the collection of the U.S. National Museum of Natural History.

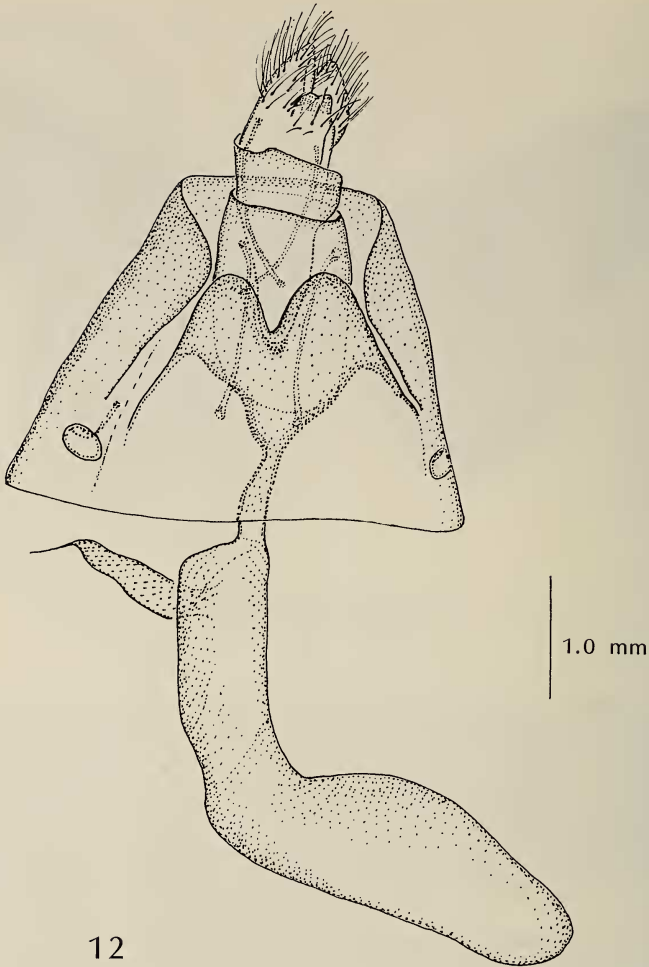


FIG. 12. Female genitalia of *Epidromia pannosa* Guenée, Venezuela, USNM slide 42,115.

Discussion

J. G. Franclemont and E. Todd (1983) mistakenly synonymized *pannosa* and *poaphiloides*. This synonymy was probably based on notes by Hampson that were never published and transferred from the British Museum of Natural History to the U.S. National Museum of Natural History. *E. poaphiloides* was described from Cayenne, French Guiana by Guenée in 1852. The type of *poaphiloides* is believed to have been destroyed or lost (R. W. Poole, pers. comm.). An illustration of the type

is not available. After reading the written description, it is quite obvious that *poaphiloides* is not *pannosa*. A number of specimens of *poaphiloides* from French Guiana and British Guiana (Guyana) can be found at the U.S. National Museum of Natural History.

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